

Appl. No. 10/646,239
Atty. Docket No. 2002B117/2
Reply to Office Action of December 29, 2006

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REMARKS

Reconsideration of the present application in view of the following remarks is respectfully requested. This Response replies to the Final Office Action dated December 29, 2006 and the Advisory Action dated March 16, 2007.

Applicants have amended claims 56, 74, and 90. Applicants have also added new claims 112-137. No new matter has been added. Claims 56-137 are now pending.

35 U.S.C. §103(a) - Obviousness

Claims 56-111 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lue et al. (U.S. Patent No. 6,255,426; hereafter "Lue") in view of Wong et al. (U.S. Patent No. 6,358,457; hereafter "Wong") and Takahashi et al. (EP Patent No. 982 362; hereafter "Takahashi"). Applicant respectfully traverses the rejection.

In the Examiner's Advisory Action at page 3, the Examiner states, "Lue et al. is the closest prior art and meets all of the limitations except the presence of a tackifier in the surface layer. Therefore, to show unexpected results the instant invention including the tackifier would need to be compared to the film of Lue." Applicants disagree and note that the Examiner is changing the grounds for rejection previously of record. Previously, the Examiner stated that Lue and Takahashi fail to teach, show or suggest a film having a natural draw ratio of at least 250%, a tensile stress at the natural draw ratio of at least 22 MPa, and a tensile stress at second yield of at least 12 MPa, and relied on Wong to meet such limitations. See Final Office Action dated December 29, 2006 at pages 6-7. As such, the Examiner's statement that Lue "meets all of the limitations except the presence of a tackifier in the surface layer," is a new ground of rejection for which the Final designation of the Office Action dated December 29, 2006 is not proper. Clarification or withdrawal of the Final designation is respectfully requested.

Notwithstanding the foregoing and in response to the Examiner's new ground of rejection, Lue does not meet all the limitations of the claims. In addition to not teaching or suggesting a tackifier, Lue does not teach or suggest a film having a natural draw ratio of at least 250%, a tensile stress at the natural draw ratio of at least 22 MPa, and a tensile

Appl. No. 10/646,239
Atty. Docket No. 2002B117/2
Reply to Office Action of December 29, 2006

stress at second yield of at least 12 MPa, as required in every claim. Such differences are neither inherent nor implied by Lue, and such differences are surprising and significant.

The pending claims relate to polyethylene stretch films. The term "stretch films" refers to a monolayer or multilayer film capable of stretching and applying a restoring force. *See* US 2004/0048019 A1 to Ohlsson (Applicant's publication; "Ohlsson") at paragraph [0187]. The actual films, whether monolayer or multilayer, can have different overall properties depending upon the additives used, the polymers used, and the number and characteristics of different film layers. *See id.* at paragraph [0195]. For stretch film applications, tackifier is used in one or more layers to provide a cling force. *See Id.* at paragraph [0188]. The presence of tackifier(s) changes the properties of a multilayer film such that stretch films that include tackifiers have different overall properties than films without. Therefore, films without tackifier, including those of Lue, do not inherently or implicitly exhibit the same overall properties as films that do include tackifier, especially the properties of natural draw ratio, tensile stress at second yield and tensile stress at the natural draw ratio. For at least those reasons, Lue neither explicitly nor implicitly nor inherently meets all the limitations of the claims that requires the presence of a tackifier. Therefore, the Examiner erred when asserting that Lue "meets all of the limitations except the presence of a tackifier in the surface layer." Accordingly, withdrawal of the rejection and allowance of the claims is respectfully requested.

Referring again to the Advisory Action dated March 16, 2007, the Examiner states "to show unexpected results the instant invention including the tackifier would need to be compared to the film of Lue." Applicant has previously provided such comparison. Notwithstanding, Applicants offer the following clarification.

Films with tackifier according to the pending claims exhibited surprising and unexpected stress-strain behavior compared to prior art films without tackifier. Figures 2A and 2B and Examples 1-10 of the Applicant's specification compare the effects of films with and without tackifier, and reveal the significant and unexpected differences upon addition of tackifier to the films according to the pending claims and to the comparative films. In Figures 2A and 2B, curve 32 represents a film made from the claimed copolymer without tackifier and curve 34 represents a film made from the

Appl. No. 10/646,239
 Atty. Docket No. 2002B117/2
Reply to Office Action of December 29, 2006

commercially available EXCEED™ 1018 resin also without tackifier. The results are shown below.

	Curve 32	Curve 34	Percent Difference
ND ratio	310	370	-19%
TS@ND ratio	27	26	4%
TS@2 nd yield	16	10	38%

Examples 6-10 and Comparative Examples 2-4 illustrate the effects of adding tackifier to the films of Figures 2A and 2B. Those effects were nothing short of surprising and unexpected. Significantly diminished stress-strain behavior by the films would be expected by those of ordinary skill in the art. However, the films according to the pending claims (Examples 6-10) surprisingly and unexpectedly showed very little, if any, diminished stress-strain behavior. A summary of those results follows:

	Ex 6	Ex. 7	Ex. 8	Ex. 9	Ex. 10	Comp. Ex. 2	Comp. Ex.3	Comp. Ex. 4
ND ratio	330	330	330	350	355	395	385	340
TS@ND ratio	24	26	26.5	28.5	25	21	21	20
TS@2 nd yield	14	17	16	16	15.4	12.4	12.8	13.5

The percent differences between the films according to the pending claims, with tackifier (Examples 6-10) compared to the same film without tackifier (curve 32), is shown below:

Appl. No. 10/646,239
 Atty. Docket No. 2002B117/2
Reply to Office Action of December 29, 2006

	Ex 6	Ex. 7	Ex. 8	Ex. 9	Ex. 10
ND ratio	6%	6%	6%	11%	13%
TS@ND ratio	-13%	-4%	-2%	5%	-8%
TS@2 nd yield	-14%	6%	0%	0%	-4%

Notice the natural draw ratio (ND ratio) increased up to 13% for all films while the tensile stress at the natural draw ratio (TS@ND ratio) only decreased up to 13% and the tensile stress at second yield (TS@2nd yield) only decreased up to 14%. Example 9 actually experienced an increase in tensile stress at the natural draw ratio and Example 7 experienced an increase in tensile stress at second yield. Examples 8 and 9 showed almost no change. Such significant increase in natural draw ratio with minimal loss in tensile stress, and in some cases an increase in tensile stress, was unexpected and surprising since significant decreases in all three would have been expected based on the teachings of the prior art, which is discussed below.

The percent differences between the comparative films, with tackifier (Comp. Ex. 2-4) and without tackifier (curve 34), provided the following:

	Comp. Ex. 2	Comp. Ex.3	Comp. Ex. 4
ND ratio	6%	4%	-9%
TS@ND ratio	-24%	-24%	-30%
TS@2 nd yield	19%	22%	26%

Notice the natural draw ratio (ND ratio) increased only 6% at best while Comparative Example 4 actually experienced a decrease of 9%. These films also experienced a significant decrease in tensile stress at the natural draw ratio (TS@ND ratio) from about

Appl. No. 10/646,239
Atty. Docket No. 2002B117/2
Reply to Office Action of December 29, 2006

24% to as much as 30%. Such differences are significantly (more than 2 times) greater than the losses of the claimed films (< 13%). Further, the comparative films experienced a significant increase in tensile stress at the second yield (19% to 26%) which flattens or lowers the yield plateau slope. As stated in paragraph [0254] of the specification, the yield plateau slope is indicative of the film's ability to absorb variations in film thickness as the film is stretched. The flatter or lower the slope, the greater the propensity to suffer from local deformation such as tiger-stripping.

In short, no one of ordinary skill in the art would have thought adding tackifier to a copolymer as taught by Lue would produce stretch films that exhibit the combination of a large natural draw ratio, large tensile stress at second yield, large tensile stress at the natural draw ratio, and positive yield plateau slope large enough to absorb typical variations in film thickness uniformity without tiger striping. Instead, one of ordinary skill in the art would have expected a diminution in properties as shown by the Comparative Examples. As discussed above and shown in the specification, the pending claims provide films having unexpected, significant, and desirable retention in stretch properties upon addition of a tackifier. Applicant thus submits that one of ordinary skill in the art would appreciate that subject matter of the pending claims is unique and nothing short of surprising and unexpected.

Withdrawal of the rejection and allowance of the claims is respectfully requested.

Appl. No. 10/646,239
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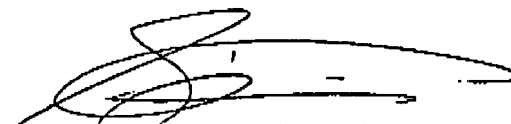
CONCLUSION

Applicants believe that the foregoing is a full and complete response to the Office Action of record. For the foregoing reasons, Applicants submit that the present claims meet all the requirements for patentability. Accordingly, an early and favorable reconsideration of the rejection, and allowance of pending claims 56-137 are requested.

The Commissioner is hereby authorized to charge counsel's Deposit Account No. 05-1712, for any fees, including extension of time fees and excess claim fees, required to make this response timely and acceptable to the Office.

Respectfully submitted,

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